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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,001	03/12/2004	Mark F. Bares	M297.12-0312	8774
27367	7590	01/25/2006	EXAMINER	
WESTMAN CHAMPLIN & KELLY, P.A. SUITE 1400 - INTERNATIONAL CENTRE 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402-3319			PECHHOLD, ALEXANDRA K	
			ART UNIT	PAPER NUMBER
			3671	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/800,001	<b>Applicant(s)</b> BARES ET AL.	
	<b>Examiner</b> Alexandra K. Pechhold	<b>Art Unit</b> 3671	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-28,31,33-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>filed 9/1/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US 5,860,231) in view of Orbach et al (US 5884,204).** Lee discloses a system comprising:

- a mechanical arm, inherently disclosed as the boom that attaches to the working members (see generally Col 2, lines 15-17 and Col 3, line 65, though not shown),
- an attachment member, disclosed as the bucket (Col 1, line 32, Col 3, line 65) tiltably mounted about a pivot joint,
- an actuator, disclosed as actuators (7), operable connected to the boom,
- a power system, disclosed as hydraulic pump in claim 1, operably connected to the actuator (see claim 1),
- an electronic control, seen as controller (4), operatively connected to the power system and comprising an automatic vibration mechanism, disclosed as automatic vibration switch in claim 1 (Col 5, lines 57-60),
- an operator interface, disclosed as the control lever used by an operator in claim 1 (Col 5, lines 53-54),

- wherein the system comprises a default state, disclosed as a normal operation mode (Col 4, lines 20-25), and an activation state, disclosed as an auto-vibration operation (Col 4, lines 25-28).

Lee fails to disclose the automatic vibration mechanisms as comprising an algorithm. Orbach teaches a control circuit (64) using an algorithm to regulate the movement of implement (44) in an active state (186) (see Col 12, lines 9-29). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the automatic vibration mechanism of Lee to use an algorithm as taught by Orbach, since an algorithm can provide the necessary calculations to achieve a desired position by taking into account several factors, as Orbach describes in column 12, lines 9-29.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US 5,860,231) in view of Kruse (US 3,061,117).** Lee discloses the limitations of the claimed invention as discussed with respect to claim 21 above. Lee fails to specifically disclose the activation state comprising the attachment member being selectably oriented within a predetermined segment of the range of tilt, and undergoing a minimum

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load, wherein the minimum load is detected by a hydraulic pressure gauge. The auto-vibration operation of Lee can inherently occur during a predetermined segment of the range of tilt (Col 4, lines 25-28), if the operator so desires to have such a predetermined range wherein the activation state occurs. Kruse teaches a hydraulic loader having a weight indicating pressure gauge (12) for indicating the weight of the material in the scoop (Col 1, lines 42-72, Col 2, line 72). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the activation state in Lee to be to reflect a minimum load, wherein the minimum load is detected by a hydraulic pressure gauge as taught by Kruse, since the desired time at which the operator chooses to activate the auto-vibration switch (3) can be the time when there is a minimum load if at such moment the vibration is required for the application, and furthermore Kruse states in column 1, lines 35-50 that a pressure gauge can accurately indicate the weight, so that overloading does not occur.

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### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**5. Claims 1, 3, 5, 6, 8, 9, 15-20, 22, 24-27, 34-40, 42, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Tabor (EP 1361312 A1).**

Regarding claim 1, Tabor discloses a system comprising:

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- a mechanical arm (124),
- an attachment member (bucket 126) tiltably mounted on the mechanical arm about a pivot joint, wherein the attachment member has a range of tilt about the joint bounded by an extreme forward orientation and an extreme rearward orientation,
- an actuator (128) operably connected to the attachment member,
- a power system (see Fig. 2) operably connected to the actuator,
- an electronic control (280) operatively connected to the power system, and comprising an automatic vibration mechanism, and
- an operator interface (285,290) in operable communication with the control,
- wherein the system comprises a default state, and an activation state for causing the activation signal (see Col 9, lines 14-19), and
- wherein the system has a predetermined segment of the range of tilt of the attachment member that is comprised in the activation state, and a remainder of the range of tilt comprised in the default state, wherein the attachment member being selectably orientated within the predetermined segment of the range of tilt comprised in the activation state is a necessary conditions for causing the activation signal (Col 9, lines 14-19).

Regarding claim 3, the system also has a predetermined length of time, comprised in the activation state as recited (see Col 9, lines 5-8).

Regarding claim 5, Tabor states in column 9, lines 14-19 how the vibrating state can be predetermined in a certain range of lift, and this range is inherently bounded by a minimum lift and a maximum lift, and the bucket being within the predetermined segment is a necessary condition for causing the activation signal.

Regarding claim 6, the system also has a predetermined length of time, comprised in the activation state as recited (see Col 9, lines 5-8).

Regarding claim 8, Tabor discloses the limitations of the claimed invention as discussed with respect to claim 1 above, and disclosed by Tabor in column 9, lines 14-19.

Regarding claim 9, Tabor discloses the limitations of the claimed invention in column 9, lines 5-19.

Regarding claims 15 and 35, Tabor discloses a push button (seen as bucket shake button 290), disclosed in column 9, lines 1-14, which at some point is in a depressed position.

Regarding claims 16 and 36, Tabor discloses that the system controller (280) can be coupled to a joystick (185) (Col 8, lines 47-50).

Regarding claims 17 and 37, Tabor discloses that the system controller (280) can be coupled to a joystick (185) (Col 8, lines 47-50), and discloses the joystick as being oriented in a predetermined orientation for a predetermined amount of time (Col 9, lines 1-14).

Regarding claim 18, Tabor discloses that the system controller (280) can be coupled to a joystick (185) (Col 8, lines 47-50), and discloses the activation state comprising the joystick being jiggled (Col 9, lines 1-14).

Regarding claims 19 and 38, Fig. 1 of Tabor illustrates a backhoe (126) mounted on the attachment member.

Regarding claims 20 and 39, Fig. 1 of Tabor illustrates a bucket (126) mounted on the attachment member.

Regarding claims 22, 24, and 40, Tabor discloses hydraulic actuator (128), which has a piston and cylinder.

Regarding claims 25, 26, 42, and 43, Tabor illustrates in Fig. 1 a frame supported by a plurality of ground engaging wheels or tracks, with the mechanical arm coupled to the frame.

Regarding claim 27, the operator interface comprises a console mounted on the frame (seen as where the joystick 285 and controller 280 are mounted in the cab 102 as described in column 8, lines 45-57).

Regarding claim 34, Tabor discloses the limitations of the claimed invention as discussed with respect to claim 1 above. Furthermore, Tabor discloses a frame and ground engaging members seen in Fig. 1, and an engine (108). Inherently, the range of tilt is bounded by an extreme forward orientation and an extreme rearward orientation, and the activation state comprises the bucket positioned within a predetermined range of lift, oriented within a predetermined segment of the range of tilt, for a predetermined length of time (Col 9, lines 1-19).



***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 4, 7, 10-14, 23, 28, 31, 33, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabor (EP 1361312 A1).**

Regarding claims 4 and 31, Tabor fails to specifically disclose that the predetermined segment of the range of tilt includes the extreme forward orientation. But Tabor does disclose how the vibrating state can be selectively determined (Col 9, lines 14-19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tabor so that the predetermined segment of the range of tilt includes the extreme forward orientation, since Tabor states in column 9, lines 14-19 how the vibrating state can be predetermined, and therefore choosing the extreme forward orientation may be conducive to the specific environmental conditions at the work site.

Regarding claims 7 and 33, Tabor fails to specifically disclose that the predetermined segment of the range of tilt includes the maximum lift. But Tabor does disclose how the vibrating state can be selectively determined (Col 9, lines 14-19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tabor so that the predetermined segment of the

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range of tilt includes the maximum lift, since Tabor states in column 9, lines 14-19 how the vibrating state can be predetermined, and therefore choosing the maximum lift as part of the segment may be conducive to the specific environmental conditions at the work site.

Regarding claims 10 and 11, Tabor fails to specifically disclose the activation state comprising the attachment member undergoing a minimum load, which is a further necessary condition for causing the activation signal. But Tabor does disclose that signals from sensors can trigger when it is necessary for the bucket to automatically enter the vibrating state (Col 9, lines 14-19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tabor so that the activation state is triggered by a minimum load, since Tabor states in column 6, lines 14-19 that sensors can generate signals to automatically cause the vibration state.

Regarding claim 12, Tabor discloses the limitations of the claimed invention as discussed with respect to claim 1 above. Tabor fails to disclose the attachment member undergoing a minimum load, and wherein this load for the activation state is detected by a hydraulic pressure gauge. But Tabor does disclose that signals from sensors can trigger when it is necessary for the bucket to automatically enter the vibrating state (Col 9, lines 14-19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tabor so that the activation state is triggered by a minimum load detected by a hydraulic pressure gauge, since Tabor

states in column 6, lines 14-19 that sensors can generate signals to automatically cause the vibration state.

Regarding claims 13 and 14, Tabor fails to specifically disclose the activation state comprising the attachment member undergoing a minimum load. The activation state inherently comprises a position and orientation of the bucket that is consistent with digging and packing, since such buckets are designed for digging and packing. Tabor does disclose that signals from sensors can trigger when it is necessary for the bucket to automatically enter the vibrating state (Col 9, lines 14-19). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tabor so that the activation state is triggered by a minimum load, since Tabor states in column 6, lines 14-19 that sensors can generate signals to automatically cause the vibration state.

Regarding claims 23 and 41, Tabor fails to disclose the actuator as electrically powered. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the hydraulic actuator of Tabor to be electrically powered, since they are known equivalents that both provide means for powering the attachment member.

Regarding claim 28, Tabor fails to disclose the operator interface as a remote control console. But Tabor does state though that the controller (280) can be any type known in the art, such as a computer, microprocessor, programmable logic device, or other similar device (Col 8, lines 53-56). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the operator

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interface of Tabor to be remote, since Tabor states that that the controller (280) can be any type known in the art, such as a computer, microprocessor, programmable logic device, or other similar device (Col 8, lines 53-56), and a remote controller allows for external operation.

**8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tabor (EP 1361312 A1) in view of Orbach et al (US 5884,204).** Tabor discloses a system as discussed with respect to claim 1 above, except for disclosing an algorithm. Tabor does state though that the controller (280) can be any type known in the art, such as a computer, microprocessor, programmable logic device, or other similar device (Col 8, lines 53-56). Orbach teaches a control circuit (64) using an algorithm to regulate the movement of implement (44) in an active state (186) (see Col 12, lines 9-29). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the automatic vibration mechanism of Tabor to use an algorithm as taught by Orbach, since an algorithm can provide the necessary calculations to achieve a desired position by taking into account several factors, as Orbach describes in column 12, lines 9-29, and Tabor states that that the controller (280) can be any type known in the art, such as a computer, microprocessor, programmable logic device, or other similar device (Col 8, lines 53-56).

### ***Response to Arguments***

9. The applicant has amended claim 12 to recite some language similar to claim 1, but sufficiently different enough that the rejection of claim 12 is being maintained since

the activation state of Lee can occur during a predetermined segment of the tilt range if so desired. The rejection of claim 21 is also being maintained. The applicant argues that the combination of Lee with Orbach is improper since Orbach's invention is direction toward a different application. But the Examiner would like to emphasize that Orbach is being used solely for the teaching of an algorithm, and therefore it would have been obvious to modify the system of Lee to incorporate an algorithm as taught by Orbach.

Note also that the previously indicated allowable subject matter is being withdrawn in light of the IDS filed 9/1/05, prompting the Examiner to set for the a new grounds of rejection.

### ***Conclusion***

10. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 9/1/05 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (571) 272-6994. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (571) 272-6998. The fax phone number for this Group is (703) 872-9306.

  
**Thomas B. Will**  
**Supervisory Patent Examiner**  
**Group 3600**

AKP  
1/17/06